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Specification

Please replace Page 10, line 15-Page 11, line 2 with the following amended paragraphs:

FIG. 1 is a block diagram showing an exemplary embodiment of a system 100 for providing telephony services and for connecting to Internet services according to one embodiment of the present invention. A wireless residential telephone system 10 is linked to a first access network 112 via connection 130 and may communicate over a data network 106 by connecting via the first access network 112. A data network telephone 108 is linked to a second access network 114 through connection 136 and may communicate over the data network 106 by connecting via the second access network 114.

The wireless residential telephone system 10 advantageously connects to the data network 106 for telephony services in a data network telephone system. The wireless residential telephone system 10 in FIG. 1 includes a telecommunications network access station 107[[110]], a first data network teleport 18a, a second data network teleport 18b, a third data network teleport 18c, a first portable information device (PID) 110a, and a second PID 110b. Only three data network teleports 18 et seq. are shown in FIG. 1, however, the wireless residential telephone system 10 may be configured to have any number of data network teleports 18 et seq. The data network teleports 18 et seq. are primarily used in a residence as a voice communications device, similar to a telephone in plain-old telephone service (POTS). Telephone service is provided by the data network telephony system 100 described below. The wireless residential telephone system 10 accesses the data network telephony system 100 using a telecommunications network access station 107, which advantageously provides multi-line and multi-number~~multi-number~~ service to residents.

Please replace Page 11, line 21-Page 12, line 12 with the following amended paragraphs:

The data network 106 may be used to access a variety of Internet services 101. For example, the Internet includes the World-Wide ~~Web 102~~Web 102, which is a well-known system for exchanging data over the Internet. The World-Wide Web 102 is commonly used to access targeted information using a computer workstation and an application on the workstation called a browser. With respect to ~~PIDs~~PID's, many Internet Content Providers offer a variety of Web PID data service 103 to permit viewing World-Wide Web data on a PID which is smaller than a workstation. One advantage of the system 100 in FIG. 1 is that Web PID data service 103 and other Internet services 101 may be accessed using the PID 110a,b using a data communication connection. For example, Palm.net offers such services, called Web clippings™. The Wireless Applications Protocol (WAP) may also be used to implement downloads of information from such services such as WAP.Yahoo.DE.

The data network telephone 108 (described further below with reference to FIG. 3) typically ~~includes~~include a voice input, a voice output and a voice processing system. The voice processing system converts voice sound to digital data signals that are communicated on a voice connection over the data network. The voice processing system also converts digital data signals received from the voice connection to voice sound. The data network telephone 108 typically ~~includes~~include a central processing unit and memory to store and process computer programs. Additionally, each data network telephone 108 typically includes a unique network address, such as an IP address, in memory to uniquely identify it to the data network 106 and to permit data packets to be routed to the device.

Please replace Page 12, line 25-Page 13, line 2 with the following amended paragraph:

The data network teleports 18a-c include a wireless transceiver interface 12, a display 116, ~~a display 116~~, a keypad 118, a voice input, a voice output and a voice processing system. The voice processing system converts voice sound to digital data signals that are communicated by a wireless connection 20 to the telecommunications network access station 107. The telecommunications network access station 107 ~~communicates~~communications the digital signals on a voice connection over the data network 106. The voice processing system also converts digital data signals received

from the voice connection to voice sound. The data network teleports 18a-c may include a central processing unit and memory to store and process computer programs.

Please replace Page 14, lines 22-29 with the following amended paragraph:

One advantage of the PID-Enabled Data Network Telephony System 100 in FIG. 1 is that it may be used to provide PID connectivity to the data network 106. In one embodiment, the PID[[PIDs]] 110a is[[are]] able to connect to data network services through a user interface on the PID 110a. The PID 110a includes a web application for retrieving information that can be communicated from the Internet services 101 over the data network 106, transported across the first access network 112, to the telecommunications network access station 107 to the data network teleport 18a. The PID 110a can receive the information across the link 109a for display on the PID 110a.

Please replace Page 20, lines 17-23 with the following amended paragraph:

FIG. 3A is a block diagram showing the data network telephone 208a connected to the local area network 212 in FIG. 2. The data network telephone 208a in FIG. 3A is connected to the network 212 by a network interface 270. The network interface 270 may, for example, be a network interface card, and may be in the form of an integrated circuit. A bus ~~239~~248 may be used to connect the network interface 270 with a processor 240 and a memory 242. Also connected to the processor are user interface circuitry 260 and three alternative link interfaces to a PID, such as the PID 210a.

Please replace Page 21, lines 6-11 with the following amended paragraph:

The three alternative link interfaces described above are merely examples, and additional means for implementing the link interface between the data network telephone 208a and the PID 210a may also be used. Although three link interfaces are shown in FIG. 3A, there may be only one such interface in the data network telephone 208a. More than one link interface may be included to improve flexibility and to provide redundancy in case of failure of one of the link interfaces.

Please replace Page 23, lines 1-5 with the following amended paragraph:

The signaling protocol used in the data network telephone 208a in FIG. 3A is the SIP protocol. In particular, the signaling stack implements a User Agent Client 244 and a User Agent Server 242, in accordance with the SIP protocol. Alternative signaling protocols, such as the ITU-T H.323 protocol, MGCP, MEGACO, and others, may also be used to implement the present invention.

Please replace Page 23, lines 17-20 with the following amended paragraph:

The media engine 241 may also include hardware and software components for performing registration functions 247, voice-over-data functions 249, display data functions 251, and keypad output functions 253. The media engine 241 processes data that is received from the network 212, and data to be sent over the network 212~~244~~.

Please replace Page 24, line 30-Page 25, line 8 with the following amended paragraph:

For data to be sent over the data network 212, the media engine 241 formats the data as data packets in accordance with a selected protocol. The selected protocol is preferably a protocol that is supported by data network telephones that will receive the data being transported. The media engine 241 may include a data connection application 245 to perform functions relating to data connections over the data network 206. The data network telephone 208a may include a data connection management protocol (e.g. the hypertext transport protocol, or http) to handle data connections. Alternatively, the SIP protocol may be used to establish data connections as well as voice connections. The data connection application 245 may also perform proxy services to permit the PID 210a~~408~~ to establish data connections.

Please replace Page 25, lines 14-17 with the following amended paragraph:

The data network telephones 208b and 218a are preferably similar or identical to the data network telephone 208a. For each of the data network telephones 208a-b and 218a, many of the features described in FIG. 3A are optional and their inclusion depends on the services to be offered.

Please replace Page 25, lines 18-25 with the following amended paragraph:

~~5. The Telecommunications Network Access Station~~The telecommunications

5. The Telecommunications Network Access Station

The telecommunications network access station 107 provides the data network teleports 18 et seq. with access to the data network 206. The telecommunications network access station 107 may also serve as the host for telephone service to the wireless residential telephone system 10 in FIG. 1. During the registration or initiation of a telephone connection involving one of the data network teleports 18 et seq., the telecommunications network access station 107 may include a signaling stack 243[[243']] to perform the connection initiation steps described above for the data network telephone 208.

Please replace Page 26, lines 24-31 with the following amended paragraph:

The voice-over-data function 249 and 249and the data connection application 245 perform data network communications functions for voice connections and data connections to the data network teleports 18 et seq. The voice-over-data function 249 communications voice-over-data packets on at least one channel over the data network. The data connection application 245 communicates on at least one data channel over the data network. The telecommunications network access station 107 includes a teleport connection controller 50 to initiate connections between voice-over-data channels and corresponding teleport channels 30.

Please replace Page 27, lines 18-27 with the following amended paragraph:

~~7. The Data Network Teleports~~FIG. 3C shows a block diagram of the data

6. The Data Network Teleports

FIG. 3C shows a block diagram of the data network teleport 18 in accordance with one[[on]] embodiment of the present invention. The data network teleport 18 communicates with the telecommunications network access station 107 using wireless base interface 22. In a preferred embodiment, the wireless base interface 22 communicates using the 2.4 Ghz. Direct Sequence Spread Spectrum (DSSS) scheme.

The data network teleport 18 includes many of the same functions and components ~~included~~include in the data network telephone 208 described above with reference to FIG. 3A. The signaling stack 243', however, is optional in the data network teleport 18. In addition, ~~the~~The data network teleport 18 may or may not communicate data packets with the telecommunications network access station 107.

Please replace Page 28, lines 17-22 with the following amended paragraph:

~~8. The Portable Information Devices (PIDs) FIG. 4 is a block diagram showing~~

7. The Portable Information Devices (PIDs)

FIG. 4 is a block diagram showing the exemplary PID 210a that can communicate via the link 209a with the data network telephone 208a connected to the LAN 212. The PID 210a may be linked to the data network telephone 208a through a link interface 545. A bus 580 may be used to connect the point-to-point interface 545 with a processor 540, a memory 542, data storage 543, and user interface circuitry 544.

Please replace Page 30, lines 3-10 with the following amended paragraph:

The processor 540 may include an operating system, as well as application and communication software, to implement the functions of the PID 210a. The operating system may be any suitable commercially available operating system, or any proprietary operating system. The operating system and software may be stored on data storage 543, in the memory 542, or they~~[[the]]~~ may be embedded in the processor 540.

Although the processor 540 is shown connected to the data storage 543 through a bus 580, other configurations may also be used. Similarly, the memory 542 may be configured other than as shown in FIG. 4, and may be embedded within the processor 540.

Please replace Page 33, line 19 with the following amended section:

8~~[[6]]~~. Providing Telephony and Access to Internet Services